



## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### Agency Information Collection Activities; Submission to the Office of Management and Budget (OMB) for Review and Approval; Comment Request; Developing, Testing, and Evaluating Methods for Transitioning the Brief Vulnerability Overview Tool (BVOT) to NWS Weather Forecasting Office Operations

**AGENCY:** National Oceanic & Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of Information Collection, request for comment.

**SUMMARY:** The Department of Commerce, in accordance with the Paperwork Reduction Act of 1995 (PRA), invites the general public and other Federal agencies to comment on proposed, and continuing information collections, which helps us assess the impact of our information collection requirements and minimize the public's reporting burden. The purpose of this notice is to allow for 60 days of public comment preceding submission of the collection to OMB.

**DATES:** To ensure consideration, comments regarding this proposed information collection must be received on or before **(insert date 60 days after date of publication in the FEDERAL REGISTER)**.

**ADDRESSES:** Interested persons are invited to submit written comments to Adrienne Thomas, NOAA PRA Officer, at [Adrienne.thomas@noaa.gov](mailto:Adrienne.thomas@noaa.gov). Please reference OMB Control Number 0648-XXXX in the subject line of your comments. Do not submit Confidential Business Information or otherwise sensitive or protected information.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or specific questions related to collection activities should be directed to Nicole Kurkowski, R2O Team Lead, DOC/NOAA/NWS/OSTI, 1325 East West Highway, Silver Spring, MD 20910, 301-427-9104, [nicole.kurkowski@noaa.gov](mailto:nicole.kurkowski@noaa.gov).

**SUPPLEMENTARY INFORMATION:**

## *I. Abstract*

This is a request for a new collection of information. The data collection is sponsored by DOC/NOAA/National Weather Service (NWS)/Office of Science and Technology Integration (OSTI). Currently, NOAA lacks data and data collection instruments that can capture local, knowledge-based, weather-hazard vulnerability information from NWS Weather Forecasting Office (WFO) meteorologists and their County Warning Area (CWA)-based core partners (especially, their county-based emergency managers (EMs)). The CWA boundaries are the counties/zones for which each WFO is responsible for issuing forecasts and warnings. Without this vulnerability information, WFO-level meteorologists' situational awareness of the greatest concerns of and risks to local communities often suffer. In addition, during situations where a WFO must rely on a back-up office due to a WFO being affected by severe weather conditions (e.g., having to shelter, losing power due to the impacts of a hurricane, tornado outbreak, etc.), back-up WFOs rarely have the situational awareness of the critical areas of concern to local core partners and, thus, are less able to communicate mission critical messaging to those core partners. Without this type of local vulnerability information, NOAA, and the NWS specifically, is limited in its ability to meet its mission of saving lives and property as outlined in the Weather Research and Forecasting Innovation Act of 2017 (especially Pub. L. 115-25 Sec. 405.d.1.A, 405.d.1.B, Sec 406.c.2.B). This effort aims to advance the Tornado Warning Improvement and Extension Program (TWIEP)'s goal to "reduce the loss of life and economic losses from tornadoes through the development and extension of accurate, effective, and timely tornado forecasts, predictions, and warnings, including the prediction of tornadoes beyond one hour in advance (Pub. L. 115-25)". This work addresses NOAA's 5-year Research and Development Vision Areas (2020-2026) Section 1.4 (FACETs). This effort also advances the NWS Strategic Plan (2019-2022) "Transformative Impact-Based Decision Support Services (IDSS) and Research to Operations and Operations to Research (R2O/O2R). The Brief Vulnerability Overview Tool (BVOT) would contribute to the NWS Weather Ready Nation (WRN) Roadmap

(2013) Sections 1.1.1, 1.1.2, 1.1.3, 1.1.8, and 3.1.4. In addition, because the BVOT is “hazard agnostic” — it is used to collect vulnerabilities based on different weather hazards and can be organized to display those vulnerabilities only related to those specific hazards that are relevant to an NWS WFO at any given moment — it can be seen to help advance a number of hazard-specific congressional laws including (but, not limited to) those related to tsunamis (Pub. L. 109-424 Sec. 5.b.4, 5.c.2, 5.c.3, Sec. 6; Pub. L. 115-25 Sec. 505.c.5.B and Sec. 505.d.1) and the recently introduced TORNADO Act (S.3817 Sec. 3.b.6.C).

This study will assess the feasibility of NWS WFOs working with their local core partners to collect local known vulnerability points associated with specific types of weather hazards in order to populate a simple (but agile) GIS shapefile that can be used to provide WFO-level meteorologists with situational awareness of the vulnerabilities of greatest concern in their CWAs. This vulnerability awareness tool — the Brief Vulnerability Overview Tool (BVOT) — has been designed by researchers at the University of Oklahoma’s Center for Applied Social Research (CASR) and Center for the Analysis and Prediction of Storms (CAPS), and it would permit NWS WFOs to work closely with their core partners to collect initial vulnerability points and to update those points in a efficient manner that would require little training and little effort through the use of widely available, simple online data collection methods.

Research participants will include adult (age 18+) NWS WFO meteorologists and their core partners (primarily the county emergency managers (EMs)) from four WFOs around the country. Participants will be asked to participate in a number of background interviews. In addition, they will be asked to complete an online (Qualtrics) survey assessing the attachment, trust, and knowledge of WFO meteorologists and their core partners. This survey will be conducted pre-/post- study in order to identify changes over time. Participants will also be asked to contribute to and learn how to maintain and use a Brief Vulnerability Overview Tool (BVOT) — a GIS shapefile-based way of collecting and displaying local, *known* vulnerability points within the existing operational environment of NWS WFOs.

The creation of a BVOT provides a number of benefits over and above current efforts within the NWS. These include 1) improved situational awareness for NWS WFO meteorologists; 2) improved spatial awareness of vulnerabilities of greatest concerns to core partners can prompt and fine-tune messaging and Decision Support Services (DSS) provided to these core partners; 3) improved spatial situational awareness for backup offices if an NWS WFO loses its capacity to operate; 4) improved training and orientation for meteorologists who are new to an NWS WFO; 5) providing a structured requirement for maintaining an evolving, “living” database of vulnerabilities that can be shared and equally accessed across the WFO and the NWS; and 6) providing opportunities to improve the trust, communication, and rapport between an NWS WFO and its core partners through the collaborative construction and periodic updating of the BVOT.

## *II. Method of Collection*

Recruitment & Training: Having worked extensively with NWS WFOs and their partner Emergency Managers and core partners in both the Central and Southern regions, the Principle Investigators are familiar with what will be necessary to receive permission to conduct the research efficiently and in a manner that respects and minimizes the necessary effort that will be requested from EMs and core partners (i.e., the non-federal/federally-contracted participants in this study). After recruitment of NWS WFO meteorologists into the study, we will contact their partner EMs and core partners (generally, this is limited to county EMs, but could include a few municipal or, if relevant, tribal EM partners) to 1) describe the project to them, 2) seek informed consent from them to participate in the study, 3) request that all consented study participants complete the online, pre-/post- NWS-Core Partner Trust survey and background interviews, 4) provide training/orientation modules to all study participants on how to select and map vulnerability data for the BVOT, and 5) develop a timeline for completing the gathering of vulnerability data.

### Data Gathering Methods:

**Background interviews** will be conducted virtually using a video conferencing platform (either Zoom or Google Meet). These will be audio-recorded only and will focus on professional background and perceptions of critical decision-making practices related to hazardous weather information and understandings of local vulnerabilities. We expect to only conduct background interviews with a sample of the EMs who are participating in the study.

**Trust and Relationship surveys** will be administered through an online, Qualtrics survey platform and will be administered at the start of the study and at the end of the study to assess the impact of NWS meteorologists and EMs working together on vulnerability mapping.

An **Online Focus Group** will be conducted after the BVOT has been built to get feedback about how both NWS meteorologists and EMs perceive the process of building the BVOT, how it could and should be used in the future, and what has been helpful about the BVOT.

**Vulnerability Mapping** itself will involve using Google Earth Pro or ArcGIS Online to map local, known, discrete, weather hazard-related vulnerabilities in one's area of responsibility (for the EMs, this is usually at the county level). EM participants are encouraged to limit their time doing this mapping to no more than about 60 minutes in order to ensure that they only focus on those vulnerabilities of greatest concern.

### *III. Data*

*OMB Control Number:* 0648-XXXX.

*Form Number(s):* None

*Type of Review:* Regular (New information collection)

*Affected Public:* State, Local, or Tribal Government (Emergency Managers)

*Estimated Number of Respondents:* ~140

*Estimated Time Per Response:* Online Focus Group and Vulnerability Mapping: 1 hour each; Background Interview: 1.5 hours; Trust Surveys: 15 minutes each.

*Estimated Total Annual Burden Hours:* 425

*Estimated Total Annual Cost to Public:* None

*Respondent's Obligation:* Voluntary

*Legal Authority:* 15 U.S.C. Ch. 111, Weather Research and Forecasting Information.

*IV. Request for Comments*

We are soliciting public comments to permit the Department/Bureau to: (a) Evaluate whether the proposed information collection is necessary for the proper functions of the Department, including whether the information will have practical utility; (b) Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used; (c) Evaluate ways to enhance the quality, utility, and clarity of the information to be collected; and (d) Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Comments that you submit in response to this notice are a matter of public record. We will include or summarize each comment in our request to OMB to approve this ICR. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Sheleen Dumas,**

*Department PRA Clearance Officer, Office of the Chief Information Officer, Commerce Department.*

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